Briefly

INTERNATIONAL

Illegally caught fish to be detected through DNA

Fish that come from protected stocks will soon be easier to detect thanks to the development of DNA tests that can determine the origin of caught fish. Researchers working as part of the FishPopTrace consortium have spent 3 years identifying several hundred variations in the DNA of Atlantic cod, European hake, common sole and Atlantic herring. Known as single-nucleotide polymorphs (SNPs), these DNA variations are more common than microsatellites used in existing DNA tests, and are also easier to detect. In experiments on caught fish the use of 20 SNPs resulted in researchers always being able to assign Atlantic cod to one of four major population groups, while the use of only one SNP allowed the correct identification of sole in 96% of cases.
Source: New Scientist (2011), 210(2812), 12

Nettle-grasping gorillas join chimps and orang-utans in demonstrating tool-using abilities

An observation of captive-born gorillas suggests that these apes have the same ability to develop tool-using tricks, and to share these within their social groups, as chimpanzees and orang-utans, in which such tool-using has been better studied. When eating nettles, the captive gorillas never detached the stinging leaf stalks, and also squeezed nettles together to reduce their exposure to stings. Related behaviour has been observed among wild gorillas in Rwanda but these individuals remove the leaf stalks and then fold the nettles. The researchers speculate that each group of gorillas developed their own way of dealing with nettles and spread the technique throughout their social group.
Source: New Scientist (2011), 210(2812), 17

Estimations of extinctions as a result of habitat loss are incorrect

Habitat loss is one of the greatest causes of extinction of plants and animals but estimating extinction rates accurately from habitat loss is not easy. A commonly-used method is to reverse the species–area accumulation curve but using this method results in overestimation of extinction rates. The concept of the extinction debt, where species are considered to be 'committed to extinction' while still extant, attempts to explain this overestimation. Now researchers have shown that the underlying assumptions in these estimates are incorrect, in that the area required in which to encounter the first individual of a species is generally much smaller than the area required to remove the last remaining individual. The researchers stress, however, that their findings do not indicate that habitat loss is not a serious concern, rather that using the species–area relationship is not the best way to estimate extinction rates brought about by habitat loss.
Source: Nature (2011), 473(7347), 368–371

Aerial observatory will shed light on forests

A project that brings together the disciplines of physics, biochemistry and ecology has resulted in the launch of an aircraft that will enhance researchers' abilities to assess forest carbon stocks and examine forest health and biodiversity. Researchers from the Carnegie Institute for Science in Stanford, California, have spent 2 years developing a digital catalogue of the chemical and optical properties of c. 4,700 plant species under different conditions, which will be used as a reference for the Carnegie Airborne Observatory, launched on 2 June 2011. This aeroplane is equipped with a laser that can map forests in three-dimensional detail, as well as an optical sensor. The way in which forest canopies absorb and reflect solar radiation depends on a number of variables such as nutrient and mineral concentrations in the leaves, allowing the researchers to determine the species' composition of the canopies they are travelling over.
Source: Nature (2011), 474(7349), 13–14

Clonal plant species take over

The ability of clonal plant species, such as some grasses, to spread vegetatively allows these species to spread across areas, often outcompeting other species and thus decreasing biodiversity. Previous research has suggested that spatial heterogeneity in soil resources promotes plant diversity, with evidence that adding fertilizer to an area, and thereby decreasing the spatial variation of soil nutrients, reduces plant biodiversity. Now experiments in which soil nutrient levels were manipulated in outdoor plots during a 6-year period have shown that clonal plant species are able to dominate areas in which nutrient levels varied on a small scale, thanks to their ability to spread between areas of nutrients. Biodiversity was found to be higher in plots where nutrient enrichment varied across a larger scale, or where clonal plant species were absent from an area.
Source: Nature (2011), 472(7344), 393, and *American Naturalist* (2011), http://dx.doi.org/10.1086/659633

Worldwide decline of seagrass habitat and diversity

The first global study of individual seagrass species has revealed that of the 72 species studied 14% are at risk of extinction based on the criteria of the IUCN Red List. The plants seed and flower on the ocean floor and form vast meadows that provide habitat for many coastal species. Furthermore, seagrasses are a primary food source for manatees, dugongs and sea turtles, as well as providing food for many other species as they break down within the coastal ecosystem. Human impacts have had a significant effect on the decline of seagrasses in developed coastal areas. Pollution, sedimentation and dredging of the seafloor have all contributed to the decline of the habitat and diversity of seagrasses.
Source: BBC Nature News (2011), http://www.bbc.co.uk/nature/13441738, and *Biological Conservation* (2011), http://dx.doi.org/10.1016/j.biocon.2011.04.010

Grey whale goes walk-about

Grey whales disappeared from the North Atlantic in the 1700s, so the appearance of a grey whale in the Mediterranean Sea in 2010 prompted much speculation as to its origins. Of three possible explanations for where this individual came from researchers suspect that it belongs to the population of grey whales that occur in the eastern North Pacific, rather than to the smaller population in the western North Pacific, or a hitherto unknown population from the North Atlantic. While most eastern North Pacific whales travel south from their summer feeding grounds in the Chuckchi and Bering Seas to the waters of California or Mexico, it is thought that the Mediterranean's grey whale may have followed an Arctic route instead, thus arriving in the North Atlantic. Evidence from a single sighting is not conclusive but researchers speculate that the shrinking of the Arctic sea ice may facilitate the recolonization of the North Atlantic by grey whales from the North Pacific.
Source: Nature (2011), 473(7345), 16, and *Marine Biodiversity Records* (2011), http://dx.doi.org/10.1017/S1755267211000042

Mangroves demonstrate mega-carbon storage

A study that examined the amount of carbon stored in mangrove ecosystems by measuring tree and deadwood biomass, soil carbon content and soil depth has found that mangroves are among the most carbon-rich forests in the tropics. The study, which examined these characteristics in 25 mangrove forests in the Indo-Pacific region, found that the mangrove forests contained on average 1,023 Mg carbon ha^{-1}, with the majority of carbon storage occurring in the soil. The aerial extent of mangroves has decreased by 30–50% in the past half century, with coastal development, aquaculture expansion and over-harvesting all playing a part in their demise. Researchers estimate that mangrove deforestation may account for as much as 10% of carbon emissions from deforestation globally, despite covering only 0.7% of tropical forest area.
Source: Nature Geoscience (2011), http://dx.doi.org/10.1038/ngeo1123

Frightened mothers have smaller chicks with longer wings

The exposure of ovulating female great tits to stuffed models and calls of two other bird species, a predatory sparrow hawk and a non-predatory song thrush, had a significant effect on the great tit chicks produced subsequently. Chicks from mothers exposed to the predator were smaller than chicks from mothers exposed to the song thrush, either because stress-related hormones may have stunted their development or because their incubation was disrupted by stress-related behaviour. Significantly, wing lengths in the two groups of chicks varied too, with the predator-treatment chicks having higher wing growth rates, and first-year recruits from this same group having longer wings at maturity. The difference in wing length, while small (c. 1.8 mm), confers an advantage in decreasing wing loading, and thus benefiting flight performance. Although the predator-treatment chicks are smaller, therefore, their longer wings improve their potential overall survival rates.
Source: Nature (2011), http://www.nature.com/news/2011/110325/full/news.2011.187.html, and *Functional Ecology* (2011), http://dx.doi.org/10.1111/j.1365-2435.2011.01834.x

Botanic gardens aided and abetted invasive species

An analysis of the origins of 34 invading plant species suggests that 19 of these plants are very likely to have spread from botanic gardens. The 34 plants examined in this study are all on the IUCN's list of the world's 100 worst invasive species, and may have been spread from the gardens by animal transportation, wind dispersal or through waterways. Although the majority of these cases occurred in the past the study carries a warning against complacency, as some invasive species can take years to become established. Some steps have been taken to address this problem, most notably the drawing up of the St Louis declaration in 2001, which aims to prevent accidental releases. So far only 10 botanic gardens have signed the declaration but many others are said to be following its guidelines.
Source: New Scientist (2011), 209(2804), 18, and *Trends in Ecology & Evolution* (2011), http://dx.doi.org/10.1016/j.tree.2011.01.005

Model for species extinction vulnerability developed

Understanding the relationship between multiple stressors within an ecosystem, and how these can result in non-random species loss is important in aiding conservationists' understanding of, and efforts to avoid, the loss of species from these ecosystems. A model that examines species extinction vulnerability has now been applied to coral reef fishes in the Indian Ocean, and revealed that 56 of the 134 species studied were at risk of suffering negative effects as a result of climate change but that when the effects of overfishing were added into the model, the entire reef fish community was at risk of extinction. Furthermore, fishes that played key roles within ecosystem processes were more at risk from fishing than climate disturbances. This is encouraging news, according to the study's authors, as it provides hope that local and regional commitment to fisheries management action can help stabilize reefs in the face of climate change.
Source: Nature (2011), 471(7336), 8, and *Ecology Letters* (2011), http://dx.doi.org/10.1111/j.1461-0248.2011.01592.x

EUROPE

FAME programme to track Europe's seabirds

A programme to track Europe's seabirds along the Atlantic coastlines of the UK, Ireland, France, Spain and Portugal was officially launched in May 2011. Funded by the European Commission, the Future of the Atlantic Marine Environment (FAME) project will provide important data to assist in the selection of marine protected areas essential for the survival of seabird species. Accurate tracking devices fitted to a range of seabirds will monitor their movements between nesting colonies and areas of the sea used for finding food. Researchers will study a variety of species including kittiwakes, guillemots, razorbills, gannets, storm-petrels and Balearic and Cory's shearwaters. Some European seabirds such as the Balearic shearwater are declining rapidly, and all require protection from threats such as pollution, dwindling food supplies, climate change, and entanglement with fishing gear.
Source: RSPB News (2011), http://www.rspb.org.uk/news/280945-seabird-programme-to-track-europes-seabirds-beyond-the-blue-horizon

Noise pollution affects squid

The effects of underwater sonar on cetaceans has been of increasing concern in recent years, and now a new study has indicated that other marine creatures may also be adversely affected by noise pollution. Experiments in which captive cuttlefish, octopuses and squid were exposed to low-frequency noise for 2 hours have revealed that the fine hairs in the animals' statocysts, the structures that are responsible for cephalopods' sense of balance and position in the water column, were damaged, with large patches of the hairs missing. On first exposure to the noise the animals were observed trying to escape but soon they stopped moving. These findings support the theory that damage to the bodies of nine giant squid washed up on Spanish beaches in 2001 and 2003 was caused by acoustic trauma sustained from low-frequency sounds from seismic surveys for oil and gas nearby.
Source: New Scientist (2011), 210(2808), 15, and *Frontiers in Ecology and the Environment* (2011), http://dx.doi.org/10.1890/100124

Five-country protected area agreed

Austria, Croatia, Hungary, Serbia and Slovenia have signed a declaration to create the world's first five-country protected area and Europe's largest riverine protected area. The trans-boundary UNESCO Biosphere Reserve will be c. 800,000 ha and will protect these countries' shared biodiversity in the Mura, Drava and Danube rivers. The area encompasses diverse habitats including gravel banks, floodplain forest, river islands and oxbow lakes, and is home to the highest density of breeding pairs of white-tailed eagles in Europe, in addition to many other threatened species. It is also of great importance for the socio-economic wellbeing of the area, such as through the provision of clean drinking water and flood protection. It is hoped that this trans-boundary protected area will be fully established within the next 2 years.
Source: WWF news (2011), http://wwf.panda.org/wwf_news/?199772

Peter and Jane: a short film about biofuels

A short animation has been posted on the social networking sites YouTube and Facebook in a bid to raise awareness of the environmental damage caused as a direct result of legally-binding EU biofuels targets. Lasting 1.5 minutes and featuring animated characters Peter and Jane, the film is part of a campaign to highlight the dangers of indirect land use change. As land use is switched away from food crops to biofuels in Europe, economics dictate that forests, grasslands and peatlands will be cleared for food crop production elsewhere. Posing a significant threat to the environment and wildlife, it is thought any benefits for climate change, resulting from the EU target for 10% of transport fuel to come from renewable fuels (mostly biofuel) by 2020, will be wiped out by the effects of indirect land use change.
Source: Birdlife International (2011), http://www.birdlife.org/community/2011/05/short-film-highlights-environmental-damage-caused-by-biofuels/, and *YouTube* (2011), http://www.youtube.com/watch?v=igUtLwruUjA

Garden plants set to invade countryside

A recent study commissioned by Natural England has shown that 92 species of non-native garden plants are on the verge of becoming invasive in the UK. It seems that gardeners are largely unaware that decorative non-native plants pose a threat to British wildlife and damage the environment. The report suggests that plants such as the New Zealand pirri-pirri-bur and the North American false-acacia should be banned from sale in a bid to limit their escape to the wild. Non-native garden plants are spread through natural seed dispersal and fly-tipping of garden waste and in the wild compete with native plants for light, space and nutrients. Ponds and aquatic areas are thought to be particularly susceptible to alien plant species. Twenty sites in the UK were identified as being at risk from the effects of invasive garden plants including the Somerset Levels and the Lake District and Pembrokeshire National Parks.
Source: BBC News (2011), http://news.bbc.co.uk/earth/hi/earth_news/newsid_9409000/9409396.stm

NORTH EURASIA

People more disturbing to biodiversity than radiation in Chernobyl

The macroinvertebrate communities of eight lakes affected by fallout from the Chernobyl nuclear disaster have been examined by researchers, who found no evidence that radiation has affected these communities. In fact, the lake with the highest levels of radiation was also the one containing the greatest richness of aquatic invertebrates. Even when examining freshwater snails, which readily absorb the radioactive isotope of strontium (^{90}Sr), the investigation found no association between mollusc diversity or abundance of individual snail species and variation of the external radiation dose received by sampled lakes. It appears that benefits conferred by the absence of people have negated harmful radiation effects.
Source: New Scientist (2011), 210(2810), 5, and *Journal of Environmental Radioactivity* (2011), http://dx.doi.org/10.1016/j.jenvrad.2011.04.007

Siberian tigers at risk from declining gene pool

Only 500 Siberian tigers survive in the wild but a recent study has shown the effective population (a measure of the genetic diversity) of this Critically Endangered species is fewer than 14 animals. Researchers analysed DNA samples from 15 wild Siberian tigers from the Primorsky region of the Russian Far East and the results revealed evidence of a genetic bottleneck, with the variety of genes being passed on dramatically reduced. The low effective population of the Siberian tiger makes the species particularly vulnerable to disease and rare genetic defects. The researchers believe the genetic decline could be attributed to the collapse of the Siberian tiger population to only 20–30 surviving animals in the 1940s. Originally found across large areas of northern China, the Korean peninsula and the southern-most regions of eastern Russia, the tiger's range declined by over 90% during the early 20th century as a result of poaching and the expansion of human settlements.
Source: Earth News (2011), http://news.bbc.co.uk/earth/hi/earth_news/newsid_9407000/9407744.stm, and *Mammalian Biology–Zeitschrift für Säugetierkunde* (2011), http://dx.doi.org/10.1016/j.mambio.2011.01.011

Counting eagles is not so simple

The counting of individuals to monitor wildlife populations is an important tool in species-orientated conservation but a study on the Vulnerable eastern imperial eagle in a nature reserve in Kazakhstan suggests that current counting techniques may be missing individuals. While the counting of breeding adult eastern imperial eagles is fairly straightforward through nest observation, gathering information about non-breeding birds is harder. This study therefore compared two techniques for counting non-breeding imperial eagles: counting them as they left their roosts, and genetic analysis of shed feathers. The non-invasive genetic analysis method revealed there to be 2.8 times more non-breeding birds than the estimate generated through visual observation. Combining visual and genetic data, the researchers estimated the reserve's total population of eastern imperial eagles was 414, 326% more than the estimate reached through visual identification alone.
Source: New Scientist (2011), 209 (2802), 7, and *Animal Conservation* (2011), http://dx.doi.org/10.1111/j.1669-1795.2011.00444.x

NORTH AFRICA AND MIDDLE EAST

Sociable lapwing lives up to its name in Oman

The largest ever recorded flock of sociable lapwings has been captured on camera in Oman, prompting delight amongst conservationists. While a number of records of this Critically Endangered species have come from Oman in the past, previous records have been of small flocks. This new record, of >90 individuals, supports the view of Oman as an important over-wintering spot for these migratory species. Although ornithologists recognize that the increased birdwatching effort in Oman makes it hard to draw robust conclusions from this record, there does seem to have been an increase in sociable lapwing numbers since 2001. Sociable lapwings are currently the focus of a tracking programme, in which nine individual lapwings have been fitted with satellite tags in an attempt to gather information on the birds' movements between their breeding grounds in Kazakhstan and their wintering areas in Africa, the Middle East and India.
Source: BirdLife International (2011), http://www.birdlife.org/community/2011/02/record-flock-of-sociable-lapwings-discovered-in-oman/

Protected areas threatened by tourism development

Despite opposition from officials at the Ministry of State for Environmental Affairs plans have been approved for a massive tourist development to be built in a protected area near Fayoum Oasis, Egypt. Porto Fayoum and other tourism developments planned for a 10-km stretch of coastal land along the northern part of Lake Qarun threaten a desert area, known as Gebel Qatrani. The area contains one of the world's most complete fossil records of terrestrial

primates and marshland mammals and has been listed as a proposed UNESCO World Heritage Site. Furthermore, it is thought tourism development will have a negative impact on birds and their habitats at Lake Qarun, a BirdLife International Important Bird Area. Egypt's official Tourism Development Authority had participated in numerous studies highlighting Lake Qarun's importance for ecotourism but has instead approved the more conventional and unsustainable developments on the lake.
Source: BirdLife International (2011), http://www.birdlife.org/community/2011/05/%E2%80%9Cporto-fayoum%E2%80%9D-tourism-development-planned-at-lake-qarun-an-important-bird-area-and-a-proposed-world-heritage-site-in-egypt/

SUB-SAHARAN AFRICA

Bilateral agreement to reduce illegal logging in Liberia

A trade deal has been signed between Liberia and the EU in an effort to ensure that Liberian timber entering Europe is legally sourced. Liberia is the fifth African country to sign a Voluntary Partnership Agreement with the EU. In such an Agreement the definition of what constitutes legal timber is negotiated on a country-by-country basis. In Liberia, legal timber must come from legitimate concessions that have a social agreement with local communities and that pay the required government taxes and fees. In theory this Voluntary Partnership Agreement represents a robust framework for forestry oversight but a number of obstacles need to be addressed before it becomes a reality, such as the building of necessary infrastructure and workforce to create a well-functioning forestry industry. Of potentially greater concern is the fact that only a small amount of the timber exported from Liberia is destined for Europe, with most Liberian wood being exported to China.
Source: Nature (2011), http://dx.doi.org/10.1038/news.2011.277

Monkeys' population decline brought about by chimpanzees

Data collected over 32 years from the same transect at Ngoro, in Kibale National Park, Uganda, has revealed fluctuations in the composition of the primate community from this area. Significantly, a large decrease in the population size of the red colobus monkey was correlated with an increase in encounter rates with chimpanzees. The researchers believe that the decrease in red colobus monkeys is the result of predation by chimpanzees, with further support for this view coming from data suggesting that chimpanzee predation rates on red colobus monkeys in Ngoro is unusually high and that the chimpanzee population is one of the largest ever recorded. The researchers also investigated other possible causes of the decline such as disease and interspecific competition but concluded that these factors were insignificant. This appears to be the first documented case of predation by a non-human primate causing a population decline in another.
Source: American Journal of Primatology (2011), http://dx.doi.org/10.1002/ajp.20965

Surprising decline in wildlife in Mara region

Researchers have found populations of almost all wildlife species in the Mara region of south-west Kenya have declined by 70% or more over the past 3 decades. The activities of poachers, changing land use patterns, and an increase in the number and range of domestic livestock in the Masai Mara National Reserve and surrounding region are thought to be responsible for the decline. Numbers of impala, warthog, giraffe, topi, zebra and Coke's hartebeest have all decreased, while within the Reserve only eland, Grant's gazelle and ostrich show signs of recovery. The number of migratory wildebeest crossing the Mara has also declined and, furthermore, numbers of wildebeest resident in the Reserve during the non-migratory wet season has fallen by 97%. Researchers were surprised by the outcome of the study as they had expected wildlife populations to have recovered over the past decade because of major wildlife protection efforts in the Mara region.
Source: BBC Nature News (2011), http://www.bbc.co.uk/nature/13573912, and *Journal of Zoology* (2011), http://dx.doi.org/10.1111/j.1469-7998.2011.00818.x

Plants and animals differ in their extinction risks

An examination of the extinction risks posed to plants has shown that these risks are significantly different to those identified in vertebrates. The study, which looked at the distribution of threatened plants across a phylogenetic tree of plants growing in South Africa's Cape region, found that the most vulnerable plant species occurred within young and fast-evolving lineages, which the researchers believe is related to the mode of speciation exhibited by these plants. In contrast, the most vulnerable vertebrates are generally large, slow-breeding and narrowly distributed. A comparison of Red List data for British and South African floras indicated that the taxonomic distribution of extinction risk also varies significantly between regions, implying that extinctions in plants do not follow a simple, trait-based model. These findings suggest that the use of Red List criteria for plants in areas that have undergone rapid speciation may need to be re-examined.
Source: PLoS Biology (2011), http://dx.doi.org/10.1371/journal.pbio.1000620

One tortoise to the tune of another

The island of Ile aux Aigrettes in the Indian Ocean has become the focus for a debate on the restoration of ecosystems: namely, whether ecologists should concentrate on restoring interactions between species rather than focusing efforts on species diversity. On Ile aux Aigrettes, seeds of the Critically Endangered endemic ebony tree *Diospyros egrettarum* have traditionally been dispersed by large-bodied frugivores, all of which had become extinct. Researchers therefore chose to introduce an exotic species, the Aldabra giant tortoise from the island of Aldabra, which, like Ile aux Aigrettes, is also located in the Seychelles. The introduction of the 19 Aldabra tortoises had a significant effect on the ebony trees, with the tortoises consuming the fruits of the trees and dispersing ebony seeds across a large area. Furthermore, the tortoise gut passage also improved germination of the seeds, aiding the establishment of ebony seedlings throughout the island.
Source: Nature (2011), 473(7345), 8, and *Current Biology* (2011), http://dx.doi.org/10.1016/j.cub.2011.03.042

Rare skinks relocate to Jersey

The Durrell Wildlife Conservation Trust is to start a captive breeding programme for the Critically Endangered orange-tailed skink. Researchers from the Trust recently relocated 22 skinks to its headquarters in Jersey with the eventual hope of reintroducing the species to its native home, Flat Island, Mauritius. As a result of development to encourage tourism and the subsequent introduction of the non-native predatory Indian musk shrew to the island, the skink is now thought to be extinct there. In response to these threats conservation groups had previously moved over 400 skinks to protected nature reserves on a nearby Mauritian island and researchers were therefore able to capture the reptiles for relocation to Jersey. Further study will be carried out on the orange-tailed skinks, which have never before been kept in captivity.
Source: BBC Nature News (2011), http://www.bbc.co.uk/nature/13697722, and *Durrell Wildlife Conservation Trust* (2011), http://www.durrell.org/Latest/News/Durrell-instrumental-in-saving-the-orangetailed-skink-from-extinction/

Plans persist for Serengeti highway and Lake Natron soda plant

Despite offers to assist in the financing of a feasibility study of alternatives from the German government, the Tanzanian government appears to be persisting with its controversial plans to build a highway through the Serengeti National Park. This is despite the project having garnered fierce protest since it was first mooted in May 2010. The Tanzanian government's steadfastness in adhering to their plan to build the highway, which aims to connect rural areas bordering the Serengeti to Tanzania's existing road network, has led some people to suspect that the road's construction is being driven by industrial and mining interests. In a further blow for Tanzania's wildlife, the President of Tanzania has announced that the soda extraction plant planned for the shores of Lake Natron must go ahead, despite the lake being the only breeding site of the greater flamingo in East Africa.
Source: WildlifeExtra (2011), http://www.wildlifeextra.com/go/news/serengeti-natron.html#cr

No more wondering about the Amsterdam albatross

An investigation of the DNA of the rarest albatross in the world has proved that the species varies significantly enough in its genetic make-up from its closest living relative to be classified as a separate species. First described in 1983, opinion had been divided as to whether the Critically Endangered Amsterdam albatross was a separate species, or a subspecies of the wandering albatross. A comparison of the mitochondrial control region sequence in 35 individuals of the Amsterdam albatross with the sequence from a number of wandering albatrosses has now confirmed the former to be the case. Morphological characteristics also support the finding, as Amsterdam albatrosses are slightly smaller in size and have browner plumage than wandering albatrosses. The total population of the Amsterdam albatross is 170 individuals, with the species' only breeding ground located on Amsterdam Island in the Indian Ocean.
Source: BBC News (2011), http://news.bbc.co.uk/earth/hi/earth_news/newsid_9421000/9421647.stm, and *Journal of Avian Ecology* (2011), http://dx.doi.org/10.1111/j.1600-048X.2010.05295.x

Joining forces to tackle illegal bushmeat trade

International experts have made a number of key recommendations for improved regulation of the illegal bushmeat trade. In June 2011 representatives from 43 governments and UN agencies, NGOs and local community organizations met in Nairobi, Kenya, to discuss the growing domestic, national and international commercial trade in meat and other body parts of mammals, reptiles and birds. Recommendations included the implementation of wildlife management approaches such as game ranching and hunting tourism, and supporting the sustainable harvesting of non-timber forest products other than wild meat. The need for improved monitoring and enhanced bushmeat-related law enforcement were also recognized. Outcomes of the Nairobi meeting will be used to inform discussions at a forthcoming meeting of the CITES Standing Committee in August 2011, as well as a November meeting of the Convention on Biological Diversity's Subsidiary Body on Scientific, Technical and Technological Advice.
Source: TRAFFIC News (2011), http://www.traffic.org/home/2011/6/7/experts-meet-to-find-solutions-to-global-bush-meat-crisis.html, and http://www.traffic.org/home/2011/6/10/experts-urge-better-regulation-of-bushmeat-trade.html

SOUTH AND SOUTH-EAST ASIA

Drug ban aids recovery of vulture populations

A recent study suggests that a ban on the veterinary use of diclofenac by the governments of India, Nepal and Pakistan in 2006 has led to a reduction in poisoning of three species of *Gyps* vultures endemic to South Asia (see also this issue, 420–426). Large numbers of vultures have been killed by eating food supplies contaminated with the anti-inflammatory drug and its use on domesticated livestock has been a major cause of rapid population declines of the oriental white-backed vulture, the long-billed vulture and slender-billed vulture, all of which are now threatened with extinction. The researchers assessed the effectiveness of the ban by measuring the concentration of the drug in livestock carcasses. They concluded further efforts are required if the future recovery of vultures across the Indian subcontinent is to be feasible. Furthermore, measures must be taken to prevent the misappropriation of human supplies of diclofenac for veterinary purposes or the use of alternative drugs likely to contaminate the vultures' food supply.
Source: BBC News (2011), http://news.bbc.co.uk/earth/hi/earth_news/newsid_9483000/9483108.stm, and *PLoS One* (2011), http://dx.doi.org/10.1371/journal.pone.0019069

Three Gorges Dam's problems acknowledged

China's State Council has admitted that the world's largest hydroelectric power project, the Three Gorges Dam, has problems that need to be addressed. These include pollution and ecological deterioration, as well as adverse effects on irrigation, water supply and shipping in the area downstream of the dam. The government's statement indicates that these problems will be addressed through further research and monitoring, as well as more efficient dam operation. This announcement comes as the worst drought for 50 years makes its presence felt downstream of the dam, with reports that rainfall in the Yangtze River basin was 40% below average between January and April 2011. Opinions are divided on the relationship between the dam and the downstream drought, however, with some saying that the dam may have affected the hydrological cycle downstream, while others see it as a means of alleviating downstream drought conditions.
Source: Nature (2011), http://www.nature.com/news/2011/012345/full/news.2011.315.html

Sinking islands act as warning for biodiversity loss

Two islets that formed part of a group of 21 islands located between India and Sri Lanka in the Gulf of Mannar Marine National Park have sunk into the sea. As part of South Asia's first marine biosphere reserve the islands are protected but it is thought that the illegal mining of coral reefs prior to the introduction of environmental protection laws has led to the submersion of the islets. It is feared other islands and islets in the group, most of which rise only 3–5 m above sea level, may be at risk of the same fate as a result of global warming and the large-scale mining of the coral reefs over the past few decades. The Gulf of Mannar was designated a biosphere reserve by the Indian government in 1989 and is home to c. 3,600 species of marine flora and fauna.
Source: BBC News (2011), http://www.bbc.co.uk/news/science-environment-13383182

Mekong dam decision deferred

A decision on the construction of the Xayaburi dam in Laos has been deferred by the intergovernmental panel of the Mekong River Commission. Concerns about the impacts of the proposed hydroelectric dam have been voiced by Cambodia, Thailand and Vietnam, and include fears about the dam's effect on fisheries, biodiversity and the livelihoods of millions of people who live in the Mekong River Basin. According to

WWF both the Environmental Impact Assessment and the feasibility study of the dam are inadequate, with further research required in a number of areas. One of the concerns in particular relates to the mitigation technology used for fish migration up the dam, with fears that copies of mitigation measures in place for salmon species in Europe and North America will not be suitable for the diversity of fish moving through the Mekong.
Source: WWF News (2011), http://singapore.panda.org/news_stories/?200061/Deferral-of-Mekong-dam-to-ministerial-level-signals-recognition-of-potential-negative-impacts

Tiger numbers rise in India…

The population of tigers in India has risen by 20% according to the latest census. The census, which involved surveys of the entire country for the first time, estimated the tiger population to be 1,706, compared to 1,411 tigers counted during the last survey in 2007. Whereas previous surveys counted the number of pugmarks of individual tigers, the new survey used camera traps to examine population numbers, which allowed relatively inaccessible areas of the country, such as the Sundarbans, to be surveyed for the first time. Although the increase in numbers is good news there is concern that some of India's tiger corridors are shrinking, and conservationists have urged the government to make the protection of these areas a priority. Tigers remain at risk from poachers, given their popularity in traditional Chinese medicine, which makes the trade in tiger products a lucrative industry.
Source: BBC News (2011), http://www.bbc.co.uk/news/world-south-asia-12877560

… and rhino numbers rise in Nepal

A national rhino census in Nepal has found that the population of rhinoceroses in the country has risen by 22% since the last census in 2008. The census, led by the Department of National Parks and Wildlife Conservation with support from WWF and the National Trust for Nature Conservation, counted a total of 534 rhinos, an increase of 99 individuals on the number counted in 2008. By far the largest population of rhinos in Nepal is located in Chitwan National Park, where the number of rhinos had increased by 95 since the 2008 count, bringing the Park's rhino population to 503. The rise in rhino numbers has been attributed to improved protection measures and management of habitat, and as such is a testimony to the Nepalese government's commitment to biodiversity conservation. Poaching still remains a major threat to rhinos, however, with WWF calling for even stronger anti-poaching measures and rhino habitat protection.
Source: WildlifeExtra (2011), http://www.wildlifeextra.com/go/news/nepal-rhino011.html#cr

New frog species found in Bangladesh

A new frog species has been described from the Chittagong district of Bangladesh, the first time that a new species has been described for Bangladesh by a Bangladeshi national. *Fejervarya asmati* joins four extant species of frog from the genus *Fejervarya*, and is distinguished from its congeners by a number of characteristics including the presence of a butterfly-shaped vocal marking on the throats of the males. The academic who described the species, Mohammad Sajid Ali Howlader, located the frogs on the campus of Chittagong University, where the holotype of this species now resides. *F. asmati* is named as a patronym of Mohammad Sajid Ali Howlader's teacher and mentor Ghazi S.M. Asmat.
Source: Zootaxa (2011), 2761, 41–50

Palm oil company and environmental group join forces

The world's second-largest producer of palm oil, Golden Agri-Resources, has developed a partnership with The Forest Trust in an effort to increase forest protection. The new agreement goes further than existing standards agreed by the Round Table on Sustainable Palm Oil, as, in addition to not clearing old-growth forest or land with high conservation value, Golden Agri-Resources has agreed not to plant on peat nor to clear forest where significant amounts of carbon are locked up in trees. The current threshold for this figure is 35 tonnes of carbon ha^{-1} but this can be changed to reflect research findings in the future. Environmental groups have welcomed the partnership, viewing it as an opportunity to challenge the rest of the palm-oil producing sector to look for ways to increase productivity rather than expanding into new areas.
Source: BBC News (2011), http://www.bbc.co.uk/news/science-environment-12397427

Smuggling bonanza detected in Thailand

An Indonesian man was stopped at Bangkok's Suvarnabhumi International Airport in February 2011 after attempting to smuggle three suitcases full of animals onto an Air Asia flight to Indonesia. The animals had all been purchased at Bangkok's Chatuchak Market, and included a Critically Endangered ploughshare tortoise, one of the most threatened tortoises in the world. Other species included 88 Indian star tortoises, two boa constrictors, 18 baboon spiders, each in its own container, and an African grey parrot. While environmentalists praised the work of the airport authorities, there was also great concern that so many protected animals are freely available at Chatuchak Market, which is located close to both the Wildlife Protection and Nature Crime Police Offices in Bangkok.
Source: TRAFFIC news (2011), http://www.traffic.org/home/2011/2/10/would-be-wildlife-smuggler-gets-three-bags-full.html

Strengthening wildlife law enforcement

A workshop organized by TRAFFIC India in association with the National Academy for Customs, Excise & Narcotics, Western region, on Strengthening Wildlife Law Enforcement has taken place in India. The 2-day workshop, held in Mumbai in June 2011, provided 30 officials from the Customs department and the Directorate of Revenue Intelligence, Western region, with an overview of illegal wildlife trafficking and introduced them to the latest tools and techniques available to curb it. Materials distributed to participants included a compendium of recent wildlife seizures in the region and relevant laws, as well as a wildlife forensic sample collection kit developed jointly by the Wildlife Institute of India and TRAFFIC. The customized kit will enable enforcement officers to collect samples for forensic analysis according to prescribed protocols. Mumbai lies on a major smuggling route and an on-the-spot identification kit uniquely designed and adapted to test ivory will also be of great value to custom officials in the fight against transnational wildlife crime.
Source: TRAFFIC news (2011), http://www.traffic.org/home/2011/6/14/customs-department-gears-up-to-fight-wildlife-crime-in-mahar.html

EAST ASIA

Awareness of endangered species rising in Taiwan

A number of efforts in Taiwan, such as the annual closure of sections of a highway that cross a butterfly migration route, point to an increasing awareness among Taiwanese of their natural heritage, particularly the number of endemic species that occur on the island. Whereas previously species that received protection were those whose protection did not interfere with economic

growth, the situation is changing as a more environmentally-minded generation comes to the fore. This is clearly illustrated in the situation surrounding the Taiwanese white dolphin, of which fewer than 100 remain, all of which are threatened by plans for the development of a petrochemical plant on Taiwan's west coast. In addition to vociferous protests, conservationists launched a campaign seeking to raise money to buy the coastal wetland where the plant is planned to be built. More than 56,000 people have donated, raising c. GBP 5 million so far.
Source: BBC News (2011), http://www.bbc.co.uk/news/world-asia-pacific-12208493

Snow leopards will not die

The Mongolian government has reversed its earlier decision to allow the killing of four wild snow leopards. Permits had previously been issued to kill four specimens of this Endangered species in the name of research. Mongolia is the second most important country after China for wild snow leopards and only 3,500–7,000 remain in the mountains of Central Asia. The Snow Leopard Network, a global alliance of over 400 individuals and institutions involved in snow leopard conservation, coordinated a sustained campaign and collaborated closely with several Mongolian institutions and researchers to oppose the government's decision. Following a meeting conducted earlier this year by the office for the Minister of Nature, Environment and Tourism with representatives of leading Mongolian conservation institutions and the Snow Leopard Network, the government decided to cancel its earlier permission to kill the Endangered cats.
Source: Snow Leopard Network Press Note (2011), http://www.snowleopardnetwork.org/sln/Homepage_En.php

NORTH AMERICA

Fungus responsible for white-nose syndrome has its genome probed

An analysis of the American and European strains of *Geomyces destructans*, the fungus that has caused the death of over a million bats in the USA, has shown that they are almost identical. In stark contrast to bats in the USA, European bats infected with white-nose syndrome, thought to be caused by *G. destructans*, apparently remain healthy. Now an examination of the different strains of the fungus show few mutational differences between their genomes. This comes as good news for researchers looking for a treatment for white-nose syndrome, as DNA differences between *G. destructans* that cause virulence in the US-strain will be easier to detect than the alternative scenario, in which European bats' resistance has developed in response to the fungus. Experiments are now underway to examine the effects of infection by North American and European strains of *G. destructans* on little brown bats.
Source: New Scientist (2011), 210(2814), 5

Ecological factors affect disease prevalence

Predator richness can have an effect on the diseases that species carry, and pass on to people, according to a study carried out on California's Channel Islands. These islands are home to deer mice that carry the Sin Nombre virus, which can cause hantavuirus pulmonary syndrome in humans. Researchers on the islands found that the prevalence of Sin Nombre virus is affected by ecological factors, with increased precipitation resulting in an increased prevalence of the disease. Although precipitation accounted for 79% of the variation in Sin Nombre prevalence, greater island area and predator density also played a role, with fewer rodent predators also increasing the prevalence of the virus.
Source: Nature (2011), 472(7344), 392, and *American Naturalist* (2011), http://dx.doi.org/10.1086/659632

State of the Birds Report 2011

The first assessment of birds on United States public land and water has found that publically-owned habitat supports more than 300 bird species. The State of Birds Report 2011 is the result of a collaborative project involving federal and state wildlife agencies and scientific and conservation organizations as part of the US North American Bird Conservation Initiative. Researchers assessed the distribution of birds on close to 344 million ha of public land including forests, islands, aridlands, wetlands, grasslands and coastland, and 10 million km^2 of ocean. It is hoped the report will provide a valuable scientific tool with which to identify management and conservation opportunities designed to halt or reverse the decline of many bird species in this diverse range of habitats.
Source: *BirdLife International* (2011), http://www.birdlife.org/community/2011/05/us-public-lands-essential-for-hundreds-of-species/

US Congress weighs in to wolf debate

Politicians have entered the fray surrounding grey wolves in the USA, with President Obama signing a budget bill that includes a provision to remove grey wolves from the USA's Endangered Species Act in Montana, Idaho and parts of three other states. Although other species have been removed from the Act in the past, previous delistings have been decided by the US Fish and Wildlife Service, and this is the first time that politicians have been involved in such a decision. While conservationists are concerned that this decision sets a precedent for the involvement of politicians in a process that has hitherto only involved biologists, hunters are delighted with the outcome, as they blame wolves for a significant decrease in elk numbers, and wolf hunts are already planned in Montana and Idaho.
Source: BBC News (2011), http://www.bbc.co.uk/news/world-us-canada-13086459

Canadian forestry deal runs into difficulties

Concerns from the logging industry and aboriginal groups have been raised about the Canadian Boreal Forestry Agreement, which aims to set aside nearly 30 million ha of land and requires the instigation of strict tree-harvesting standards on another 42 million ha. One aspect of the Agreement, in which areas of caribou habitat are to be removed from logging plans, is being contested, with environmental campaigners claiming that >20 million ha of caribou habitat needs to be protected, an interpretation that has been rejected by some logging companies. Another component of the Agreement, in which the needs of aboriginal communities are to be taken into account in developing the Agreement's standards, is also under question, with some logging companies claiming that this infringes on their flexibility. The First Nations are unhappy at having been left out of discussions and voted, at a special assembly of First Nation chiefs, to 'reject and demand the termination' of the Agreement.
Source: Nature (2011), 471(4320), 560

White sharks disappearing into the blue

A survey of the great white shark population in the north-eastern Pacific has estimated that the number of white sharks in this area is 219 mature and subadults, a much smaller population size than other comparable marine predators such as orcas. The great white sharks in this part of the Pacific are isolated from other populations of the species, and thus form a genetically distinct clade within the great white shark group. Within the north-eastern Pacific this population of great white sharks aggregates seasonally in two distinct sites, one off the coast of central California and the other at Guadalupe Island, Mexico. This study was conducted at the species' Californian aggregation site, and used photographs of the individuals' dorsal fins to build up an estimate of the shark's population.
Source: New Scientist (2011), 209(2803), 5, and *Biology Letters* (2011), http://dx.doi.org/10.1098/rsbl.2011.0124

CENTRAL AMERICA AND CARIBBEAN

Chytrid fungus found far and wide

The fungus *Batrachochytrium dendrobatidis*, responsible for chytridiomycosis in amphibians and thus linked to many amphibian declines, has until recently been thought to be limited by temperature. As such, the role of *B. dendrobatidis* in causing disease in amphibians in lowland tropics has been unclear. Furthermore, there is uncertainty as to whether the fungus was formerly present in areas and has recently increased in pathogenicity, or whether it is a new pathogen for affected regions. Research in Panama examined frogs along an epidemic gradient, ranging from areas where the epidemic had not yet arrived to sites where the epidemic had occurred up to 10 years ago. Other sites were also investigated along an altitudinal gradient from 45–1,215 m. The results indicated that frogs infected with the fungus occur in all sites, including in lowland areas.
Source: Smithsonian Tropical Research Institute (2011), http://www.stri.si.edu/english/about_stri/headline_news/scientific_advances/article.php?id = 1259, and *EcoHeath* (2011), http://dx.doi.org/10.1007/s10393-010-0634-1

SOUTH AMERICA

Massive leap in Brazilian deforestation rates

Satellite imagery has shown that the rate of deforestation in Brazil increased by 27% between August 2010 and April 2011, according to Brazil's space research institute. The highest rate of deforestation was in the state of Mato Grosso, the centre of the Brazilian soybean industry. The Brazilian government is said to have been surprised by the new deforestation figures, which follow an announcement in December 2010 indicating that Brazilian deforestation had declined to its lowest rate for 22 years. Some environmentalists see a link between the hike in deforestation rates and proposed changes to the Forest Code, which regulates the amount of land a farmer is allowed to deforest. Currently, a landholding in the Amazon is required to retain 80% of its area as forest, a figure some say is impeding Brazil's economic development, whereas others are concerned that the proposed changes to the Code will send out the wrong message to landowners.
Source: BBC News (2011), http://www.bbc.co.uk/news/world-latin-america-13449792

Rodent makes début appearance in front of the cameras

The red-crested tree rat has been rediscovered following an absence of more than 100 years. Last sighted in 1898, it was photographed for the first time on 4 May 2011 at the ProAves El Dorado Nature Reserve Ecolodge in the Sierra Nevada de Santa Marta, Colombia. Two research assistants first noticed the nocturnal rodent as it casually made its entrance and obligingly posed for photographs, before returning to the forest after a period of 2 hours. Similar in size to a guinea-pig, the red-crested tree rat is distinguished by a mane-like band of reddish fur around its neck and a black and white tail. It is now likely to be categorized as Critically Endangered on the IUCN Red List.
Source: ProAves Colombia Press Release (2011), http://www.proaves.org/article.php?id_article = 1000

Sugar-cane sweetener for Brazil's cerrado?

The increase of sugar-cane plantations to supply a growing demand for biofuels is a matter of concern to many but a new study shows that sugar-cane plantations may have a direct cooling effect on the surrounding area. An investigation in Brazil's cerrado found that, when sugar cane was planted on land that had already been used as a crop/pasture mosaic, the temperature of that area was reduced by an average of 0.93 °C, chiefly as the result of decreased water evaporation and transpiration. In cases where a crop/pasture mosaic replaced areas of natural vegetation, however, average temperatures in the area increased by an average of 1.55 °C. These results suggest that the climate benefits that can be gained from sugar cane plantation are best realized when sugar cane plantations are created on existing pasture and crop land.
Source: Nature (2011), 472(7344), 393, and *Nature Climate Change* (2011), http://dx.doi.org/10.1038/nclimate1067

Amazonian drought causes concern

A comparison between two droughts in Amazonia, one in 2005 and the other in 2010, has revealed that the more recent drought affected a wider area than the drought in 2005. Use of satellite-derived rainfall data indicated that 57% of Amazonia had low rainfall compared to 37% in 2005. This finding is of particular concern because the Amazon becomes a net emitter of carbon dioxide in drought conditions, mainly as a result of drought-afflicted trees dying, which renders the trees unable to remove CO_2 from the atmosphere, and, as they rot, they also release CO_2. Researchers estimate that the impact of the 2005 drought, spread over several years, resulted in the release of five billion t of CO_2, and first estimates of the CO_2 emissions from the 2010 drought are as much as eight billion t. In a non-drought year the Amazon basin is estimated to absorb c. 1.5 billion t of CO_2.
Source: BBC News (2011), http://www.bbc.co.uk/news/science-environment-12356835, and *Science* (2011), http://dx.doi.org/10.1126/science.1200807

Chevron fined in Ecuador

A court ruling in Ecuador has fined the US oil company Chevron USD 8.6 billion, as well as a 10% legally mandated reparations fee, for their pollution of the Ecuadorian Amazon. Ecuadorean Indian groups accused Texaco, which merged with Chevron in 2001, of dumping > 68 billion litres of toxic waste into unlined pits and rivers, resulting in the damage of crops and livestock, as well as increased local cancer rates. The ruling is the culmination of a trial that started in 2003 after almost 10 years of legal wrangling in the USA, which ultimately led to a US appeals court ruling that the case should be held in Ecuador. Both sides in the case have announced their intention to appeal; a lawyer for the plantiffs indicated that the sum is insufficient considering the environmental damage caused, while Chevron has called the ruling illegitimate and unenforceable.
Source: BBC News (2011), http://www.bbc.co.uk/news/world-latin-america-12460333

Fishy journey for Amazonian plant seeds

Little research has been done on seed dispersal effectiveness of fishes, despite many tree and liana species in the Amazon being specialized for dispersal by fish. Furthermore, large-bodied, fruit-eating fishes, such as *Colossoma macropomum*, are present in the large Amazonian floodplains during annual floods, where they feed on fallen fruits. Now researchers have used radio-tracking to study the movement of 24 *C. macropomum* during three flood seasons in the Peruvian Amazon. The radio-tracking data was combined with information from captive fish on seed retention time within their guts. The researchers predict that *C. macropomum* has a mean seed dispersal distance of 337–552 m but it can reach up to 5,495 m, one of the longest seed dispersal distances ever reported. Of concern is the fact that seed dispersal distance is related to fish size; overexploitation of *C. macropomum* means that their populations are now biased towards smaller individuals.
Source: Nature (2011), http://www.nature.com/news/2011/110323/full/news.2011.177.html, and *Proceedings of the Royal Society B* (2011), http://dx.doi.org/10.1098/rspb.2011.0155

Community plant nurseries play vital role in dry forest conservation

The World Land Trust and its partner Provita are working with the local community of El Horcón to create three new plant nurseries in Venezuela. The community-run nurseries will grow native tree species for eventual planting in the threatened dry forests of Macanao Peninsula, Margarita Island. Organic food items will also be grown to be sold at community markets and it is hoped the nurseries will provide sustainable income for the villagers. The plant nurseries were designed to suit the community's needs and villagers were given input at each stage of the development process. Furthermore, the nurseries will act as a conservation tool for the restoration of the Macanao dry forests and the production of native trees species is thought to be crucial to conserving the Peninsula's biodiversity.
Source: World Land Trust (2011), http://www.worldlandtrust.org/news/2011/05/

AUSTRALIA/ANTARCTICA/ NEW ZEALAND

Under the boardwalk proves popular with shorebird chicks

A study that provided artificial shelters to Near Threatened hooded plovers on a popular recreational beach in Australia apparently resulted in chick survival rates increasing by 71.8%. As with many other species of shorebirds nesting on sandy beaches, hooded plovers are at risk of disturbance from people using the beaches on which this species nests. Other studies have also found positive results for chick survival but this study aimed to determine the best design for shorebird shelters. Three shelters were examined against four criteria: accessibility for chicks, thermal insulation, conspicuousness to beach-users, and practicality. The best-performing shelter was the A-frame, although the researchers were not able to determine the mechanism by which these shelters increased chick survival. Their results do suggest, however, that artificial shelters have a role to play in the protection of shorebird populations.
Source: Bird Conservation International (2011), 21, 172–185

Bleak outlook for Great Barrier Reef…

Research by biologists in Australia has brought sombre news for the Great Barrier Reef, with evidence that if CO_2 continues to be released into the atmosphere at current rates the next 10 years will contain a tipping point beyond which ocean warming will happen no matter what further changes occur. This presents a serious threat to coral reefs, many of which, contrary to previous beliefs, are unable to change their symbiotic algae for a species more tolerant to warmer waters. Only the 25% of coral species that contain multiple species of symbiotic algae are able to perform such a swap, with the other 75% reliant on movement to cooler zones to survive. While coral larvae are able to travel, reefs cannot, particularly when the estimated distances required are c. 15 km $year^{-1}$ in the case of the Great Barrier Reef.
Source: New Scientist (2011), 210(2807), 6

… and yet fragmentation is not necessarily bad for coral reef species

Previous attempts to determine the relative effects of habitat loss and habitat fragmentation have proved difficult, as these effects are often hard to distinguish from one another during a disturbance event. Now researchers in Australia have manipulated live coral habitats in an effort to examine these effects. The loss of 75% of live coral from reefs resulted in low survival rates for damselfish as well as low abundance and richness of other coral-associated reef fishes, 16 weeks after the experiment began. However, in cases where the reef was fragmented but not reduced in area, damselfishes actually had higher survival rates than on control reefs, with the positive effects of fragmentation at least four times stronger than the negative effects of habitat loss for the first 6 weeks following habitat manipulation. The researchers speculate that competition within and among species weakens following habitat fragmentation.
Source: Nature (2011), 471(7339), 412, and *Ecology* (2011), http://dx.doi.org/10.1890/10-0627.1

Terrestrial trophic cascade demonstrated in New Zealand

Researchers have linked the decline of a species of woody shrub on New Zealand's upper North Island to the disappearance of two birds from the area in the late 19th century. The New Zealand gloxinia produces a tubular orange flower that is pollinated by three bird species: the stitchbird, the bellbird and the tui. Rats and stoats introduced to New Zealand's North Island in 1870 caused the disappearance of the stichbird and bellbird, and the tui is now thought to feed higher in the canopy than previously. A comparison between gloxinia on the mainland with plants growing on islands where the birds remain extant showed that seed production per flower is 84% lower on the mainland than the islands. The researchers describe this as a 'slow motion disaster', with the plant's mainland population fading away following 140 years of inadequate pollination.
Source: BBC News (2011), http://www.bbc.co.uk/news/science-environment-12347073, and *Science* (2011), http://dx.doi.org/10.1126/10.1126/science.1199092

Fighting tadpoles with tadpoles

The latest armament in the war against the invasive cane toad in Australia is not perhaps the most obvious: researchers are looking to see whether adding native tadpoles to toad-breeding sites can reduce toad recruitment. Many frogs native to Australia breed earlier than the cane toad, and have longer larval periods, a headstart that allows native tadpoles, when introduced to a site where larval cane toads are present, to outcompete the invaders. Experiments with eight native frog species produced promising results, with the presence of six of these species in toad-breeding ponds reducing toad tadpole survival and/or size at metamorphosis. Species with larger tadpoles had greater negative effects on the toads. The authors of the study urge the general public to construct and restore waterbodies to bolster populations of native frogs.
Source: Journal of Applied Ecology (2011), http://dx.doi.org/10.1111/j.1365-2664.2010.01933.x

Controversial cattle-grazing trial in Australia

Over 100 Australian ecologists have signed a letter to the national government denouncing a trial that aims to investigate whether allowing cattle to graze in Alpine National Park reduces the incidence of bushfires, claiming that science is being misused for political gain. Up to 100,000 cattle used to graze in the Park in the 1950s but were banned in 2005 when a review found that the cattle presence did not reduce bushfire incidence, and that their hooves, grazing and manure damaged the Park's delicate ecosystems. In January 2011, however, 400 cattle were allowed back into the Park, fulfilling a pledge by the newly-elected coalition in Victoria. The government of Victoria announced that these cattle were part of a research trial but opponents claim that no baseline data were collected and that the trial had not been designed before the cattle were introduced to the Park.
Source: Nature (2011), 471(7339), 422

Rabbits, rodents and two Australian islands

Measures first introduced in 2010 to eradicate rabbits and rodents from Macquarie

Island, Australia, have now resumed. The island is a designated Important Bird Area and the eradication programme is deemed essential for seabird conservation. Rabbit grazing on Macquarie is destroying the only Australian breeding habitat for the Endangered grey-headed albatross, and rats and mice prey on petrel chicks. On another World Heritage listed site, Lord Howe Island, the Australian Government has identified the eradication of rodents as a priority in the 2011–2012 Caring for Our Country Business Plan. The removal of rodents from Lord Howe should enable white-bellied storm-petrels and kermadec petrels to re-establish nesting colonies on the island and could benefit at least 13 bird species.
Source: *BirdLife International* (2011), http://www.birdlife.org/community/2011/06/seabirds-and-rodents-on-australia%E2%80%99s-outlying-islands/

Oil spill at Nightingale Island threatens rockhopper penguins

The grounding of a cargo vessel, the MS *Oliva*, on a headland at the north-west of Nightingale Island, is threatening the Island's population of Endangered rockhopper penguins, as well as other wildlife in the area and the economically-important rock lobster fishery. Fuel oil, and the ship's cargo of 1,500 t of heavy crude oil, caused a slick in the waters around Nightingale Island, and many oiled penguins have already come ashore. An additional concern is the danger of rats from the ship coming ashore, and conservationists have already placed rodent traps in the vicinity of the wreck to try to prevent this occurring. Nightingale Island is one of two large islands in the Tristan da Cunha island group that are currently rat-free, a situation that the island's conservation team are extremely keen to maintain.
Source: BirdLife International (2011), http://www.birdlife.org/community/2011/03/race-to-save-oiled-penguins-after-tanker-strikes-tristan-da-cunha/

Richard Henry, legendary kakapo, dies

A kakapo that has been attributed with the accolade of saving his species has died of natural causes, leaving behind a burgeoning kakapo population. Richard Henry, named after a Victorian conservationist, was discovered in Fiordland in 1975 at a time when the kakapo was thought to have become extinct. He subsequently played a crucial part in the success of the kakapo breeding programme, through the auspices of which the current kakapo population currently stands at 121 birds. Conservationists estimate that Richard Henry was over 80 years old when he died and thus his death brings to an end a connection to the early days of kakapo conservation. Of particular poignancy is the fact that he may have hatched at a time before stoats had decimated the kakapo population in his native Fiordland. Richard Henry had not bred since 1999 and had become blind in one eye, slower-moving and a little wrinkled.
Source: Department of Conservation (2011), http://www.doc.govt.nz/about-doc/news/media-releases/kakapo-males-boom-on-as-legendary-bird-dies/

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